



# ***STIC Search Report***

***EIC 1700***

**STIC Database Tracking Number: 196988**

**TO: Dawn Garrett  
Location: REM 10C79  
Art Unit : 1774  
August 2, 2006**

**Case Serial Number: 10/801997**

**From: Usha Shrestha  
Location: EIC 1700  
REMSSEN 4B28  
Phone: 571/272-3519  
usha.shrestha@uspto.gov**

## **Search Notes**

JUL 3 . hil

Pat. & T.M. Office

Access DB# 196982

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 7607 Date: 7/28/2006  
Art Unit: 1774 Phone Number: 301-2-1523 Serial Number: 10/801,997  
Mail Box and Bldg/Room Location: Rem 10C79 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): (See Bib. Data Sheet)

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search

Formula I

where

R<sub>2</sub> and R<sub>4</sub> are aryl

R<sub>1</sub>, R<sub>3</sub>, R<sub>5</sub>, and R<sub>6</sub> are alkyl

Also search Formula B-6 attached

## STAFF USE ONLY

Searcher: usl

Searcher Phone #: \_\_\_\_\_

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: 8/2/06

Date Completed: 8/2/06

Searcher Prep & Review Time: 30

Clerical Prep Time: 30

Online Time: 60

### Type of Search

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) 1

Bibliographic \_\_\_\_\_

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

### Vendors and cost where applicable

STN 8 3-17-09

Dialog \_\_\_\_\_

Questel/Orbit \_\_\_\_\_

Dr.Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

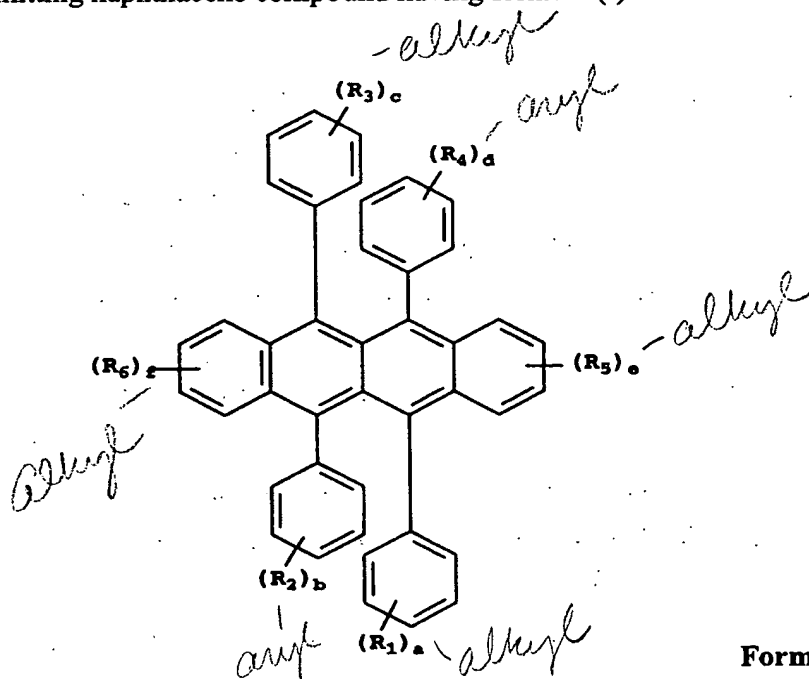
Other (specify) \_\_\_\_\_

## CLAIMS:

1. An organic light-emitting diode (OLED) device that produces white light, including:

- 5 a) an anode;  
b) a hole-transporting layer disposed over the anode;  
c) a blue light-emitting layer disposed over the hole-transporting layer;  
d) an electron-transporting layer disposed over the blue light-emitting layer;  
10 emitting layer;  
e) a cathode disposed over the electron-transporting layer; wherein  
f) wherein the hole-transporting layer comprises an entire layer or a partial portion of a layer in contact with the blue light-emitting layer and contains a light-emitting naphthacene compound having formula (I)

15



Formula (I)

wherein

- R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> represent substituents on each ring where  
20 each substituent is individually selected from alkyl or substituted alkyl groups of

from 1 to 24 carbon atoms; aryl or substituted aryl groups of from 6 to 20 carbon atoms; carbon atoms from 4 to 24 necessary to complete a fused aromatic ring; heterocyclic or substituted heterocyclic groups of from 5 to 24 carbon atoms, which may be bonded via a single bond, or may complete a fused heteroaromatic ring system; alkoxy or aryloxy groups, alkoxylamino, alkylamino, and arylamino groups of from 1 to 24 carbon atoms; and fluorine, chlorine, bromine or cyano substituents;

a, b, c and d are individually selected from 0 through 5;

e and f are individually selected from 0 through 4;

provided that at least one of R<sub>1</sub> through R<sub>4</sub> is not a fused ring group and at least one of R<sub>1</sub> through R<sub>6</sub> is a substituent; and

provided further that neither both R<sub>1</sub> and R<sub>4</sub> nor both R<sub>2</sub> and R<sub>3</sub> are heterocyclic.

2. The device of claim 1 wherein:

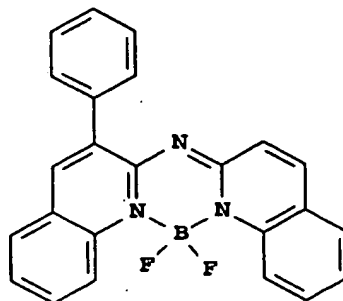
a) at least one of R<sub>5</sub> and R<sub>6</sub> are selected from aromatic or heterocyclic groups; and

b) at least one of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> contain at least one substituent identical to the aromatic or heterocyclic groups in paragraph a).

20

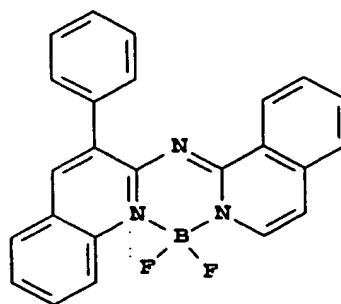
3. The device of claim 1 wherein the naphthacene is represented by formula (II):

B-4

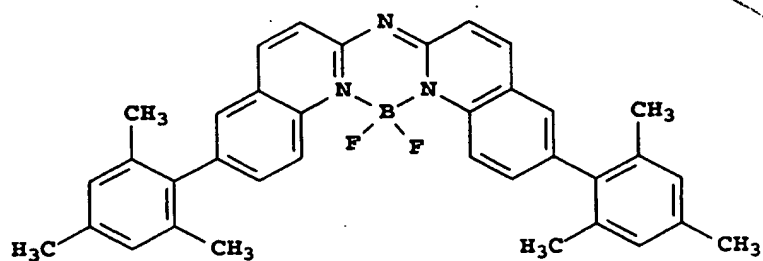


5

B-5



B-6



10

=> fil reg

FILE 'REGISTRY' ENTERED AT 12:39:38 ON 02 AUG 2006

=> d his

FILE 'HCAPLUS' ENTERED AT 11:08:52 ON 02 AUG 2006

L1 1 S US20050208327/PN  
SEL RN

FILE 'REGISTRY' ENTERED AT 11:09:19 ON 02 AUG 2006

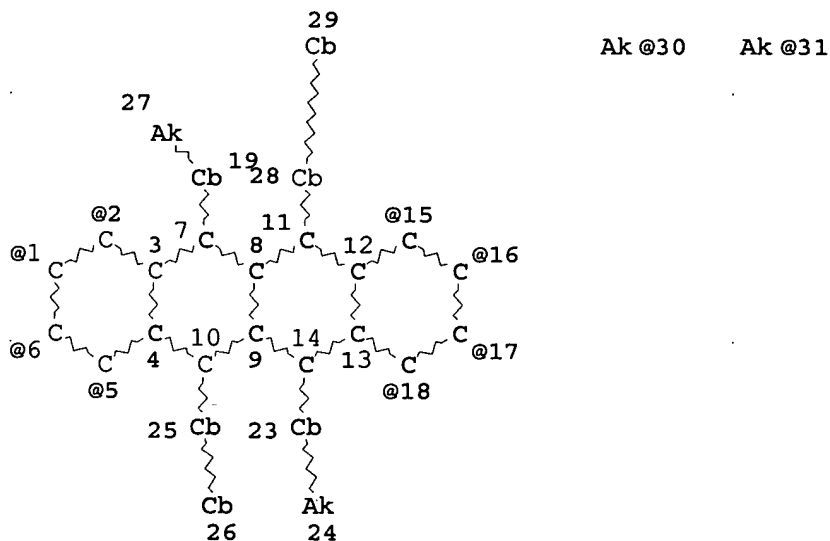
L2 72 S E1-E72  
L3 24 S L2 AND 8-10/NR  
L4 STR  
L5 0 S L4  
L6 STR L4  
L7 1 S 676120-56-2/RN  
L8 1 S L6 FUL  
L9 1 S L8 AND L2  
SAV L8 TEMP GAR997/A

FILE 'HCAPLUS' ENTERED AT 11:59:52 ON 02 AUG 2006

L10 11 S L8  
L11 10 S L7

=> d que 110

L6 STR



VPA 30-2/1/6/5 U

VPA 31-15/16/17/18 U

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 28

STEREO ATTRIBUTES: NONE

L8 1 SEA FILE=REGISTRY SSS FUL L6

L10 11 SEA FILE=HCAPLUS ABB=ON L8

=> d que 111

L7 1 SEA FILE=REGISTRY ABB=ON 676120-56-2/RN

L11 10 SEA FILE=HCAPLUS ABB=ON L7

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 12:39:58 ON 02 AUG 2006

=> d 110 1-11 ibib abs hitstr hitind

L10 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:469364 HCAPLUS

DOCUMENT NUMBER: 144:477445

TITLE: Selecting white point for OLED devices

INVENTOR(S): Spindler, Jeffrey P.; Hatwar, Tukaram K.;  
Ricks, Michele L.

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 54 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2006105198	A1	20060518	US 2004-990865	2004 1117
WO 2006055415	A1	20060526	WO 2005-US40921	2005 1110

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,  
LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ,  
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,  
SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,  
ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,  
HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI,  
SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL,  
SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-990865 A 2004  
1117

AB The invention relates to a method for selecting 2 different light-emitting materials for use in an OLED device, each of which produces different color light, which combine to produce white light. Each light emitting material has its own point on a chromaticity diagram, and the light-emitting materials are selected such that, when a line is drawn between the 1st point and

the 2nd point, it passes through a desired white area defined on a chromaticity diagram.

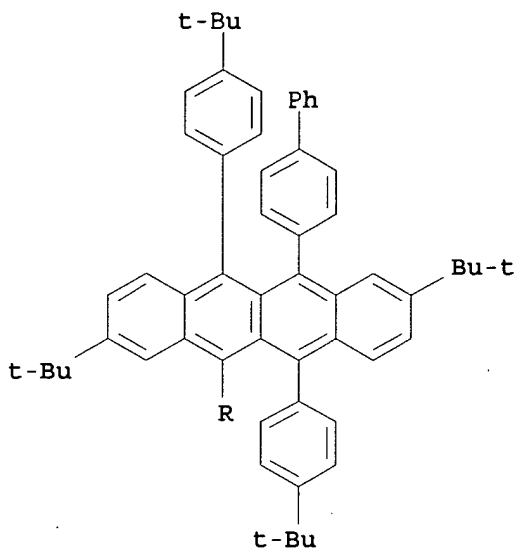
IT 850797-15-8

(selecting white point for OLED devices)

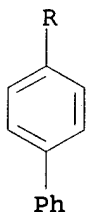
RN 850797-15-8 HCAPLUS

CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000; 257-E51.049

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74

IT 517-51-1, Rubrene 55035-43-3 374592-94-6 478799-44-9  
478799-46-1 676120-56-2 850797-14-7 850797-15-8

(selecting white point for OLED devices)

L10 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:383214 HCAPLUS

DOCUMENT NUMBER: 144:422235

TITLE: White organic light-emitting devices with



INVENTOR(S): improved performance  
 Begley, William J.; Hatwar, Tukaram K.;  
 Rajeswaran, Manju; Andrievsky, Natasha  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 49 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

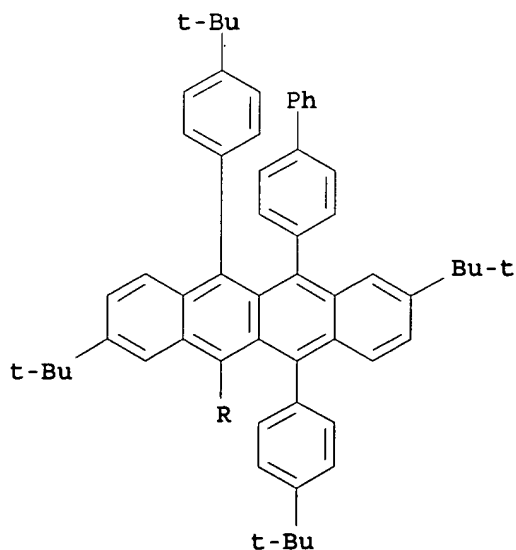
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006088729	A1	20060427	US 2004-972671	2004 1025

PRIORITY APPLN. INFO.: US 2004-972671  
 2004  
 1025

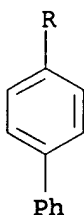
AB An OLED device produces white light and comprises (A) a red light emitting layer and (B) a blue light emitting layer wherein the red light emitting layer contains a certain type of electroluminescent component having a 1st bandgap, a nonelectroluminescent component having a 2nd bandgap, and one or more further nonelectroluminescent components having further bandgaps in which the bandgaps all have a specified relation.

IT 850797-15-8  
 (white organic light-emitting devices with improved performance)  
 RN 850797-15-8 HCAPLUS  
 CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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INCL 428690000; 428917000; 428212000; 313504000; 313506000;  
257-E51.026; 257-E51.022  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
Properties)  
IT 2085-33-8, Aluminum tris(8-hydroxyquinolino) 123847-85-8, NPB  
175606-05-0 850797-15-8 884307-50-0  
(white organic light-emitting devices with improved performance)

L10 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2006:192680 HCAPLUS  
DOCUMENT NUMBER: 144:263334  
TITLE: A process for improvement of stability to  
photooxidation by solvent treatment of  
polymorphic polycyclic aromatic compounds  
INVENTOR(S): Begley, William James; Nichols, William  
Frederick; Rajeswaran, Manju; Andrievsky,  
Natasha; Landry, Michael Raymond  
PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
SOURCE: PCT Int. Appl., 31 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2006023369	A1	20060302	WO 2005-US28599	2005 0810
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
US 2006047174	A1	20060302	US 2004-924637	2004 0824

PRIORITY APPLN. INFO.:

US 2004-924637

A

2004  
0824

AB A process for improving the stability to photo-oxidation of a polycyclic aromatic compound having at least two polymorphic forms comprises treating a first polymorph with one or more solvents to obtain the more stable second polymorph and then separating the second polymorph from the solvent. Processes for making an OLED device are also discussed which entail subliming the stable polymorph of an polycyclic aromatic compound prepared as described above onto a suitable substrate as part of a luminescent or non-luminescent layer.

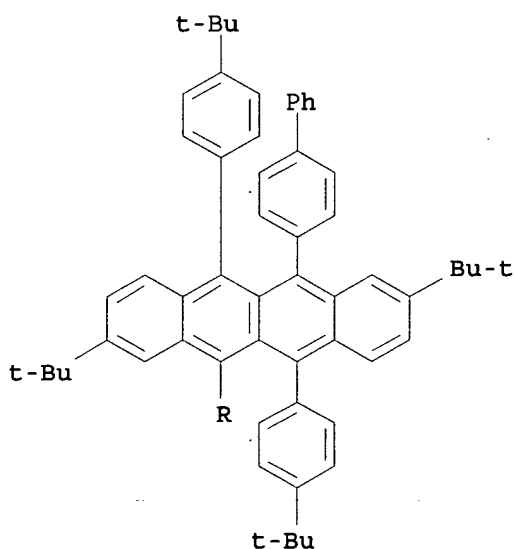
IT 850797-15-8P

(polymorphic; process for improvement of stability to photooxidn. by solvent treatment of polymorphic polycyclic aromatic compds.)

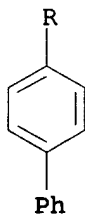
RN 850797-15-8 HCAPLUS

CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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IC ICM C09K011-06

ICS H01L051-40  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 22, 25, 74  
 IT 850797-15-8P  
 (polymorphic; process for improvement of stability to photooxidn. by solvent treatment of polymorphic polycyclic aromatic compds.)  
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2006:168229 HCAPLUS  
 DOCUMENT NUMBER: 144:243089  
 TITLE: White OLED having multiple white electroluminescent units connected by intermediate connectors  
 INVENTOR(S): Liao, Liang-Sheng; Hatwar, Tukaram K.; Klubek, Kevin P.; Tang, Ching W.  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 26 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006040132	A1	20060223	US 2004-922606	2004 0820
WO 2006023322	A1	20060302	WO 2005-US28199	2005 0808

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-922606 A 2004  
0820

AB Tandem white OLED devices are described which comprise an anode; a cathode; a plurality of organic electroluminescent units disposed between the anode and the cathode, where each organic electroluminescent unit includes at least one light-emitting layer, and where each organic electroluminescent unit emits white light; and an intermediate connector disposed between each adjacent organic electroluminescent unit, where the intermediate

connector includes at least two different layers, and where the intermediate connector has no direct connection to an external power source.

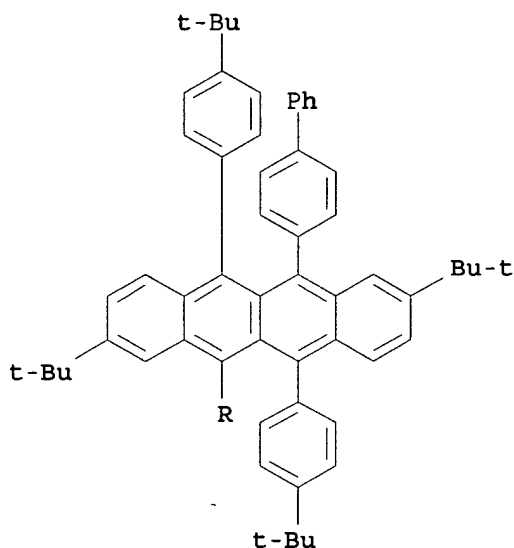
IT 850797-15-8

(dopant; white OLED having multiple white electroluminescent units connected by intermediate connectors)

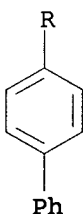
RN 850797-15-8 HCAPLUS

CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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INCL 428690000; 428917000; 428212000; 313504000; 313506000; 257088000; 257096000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

IT 55035-43-3, 4-(Di-p-tolylamino)-4'-[(di-p-tolylamino)styryl]stilbene 219319-24-1 850797-15-8

(dopant; white OLED having multiple white electroluminescent units connected by intermediate connectors)

L10 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:101650 HCAPLUS  
 DOCUMENT NUMBER: 144:170800  
 TITLE: Process for preparing triphenylnaphthacene compound  
 INVENTOR(S): Begley, William J.; Rajeswaran, Manju; Andrievsky, Natasha  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 11 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2006025642	A1	20060202	US 2004-899821	2004 0727

PRIORITY APPLN. INFO.: US 2004-899821  
 2004  
 0727

OTHER SOURCE(S): CASREACT 144:170800; MARPAT 144:170800

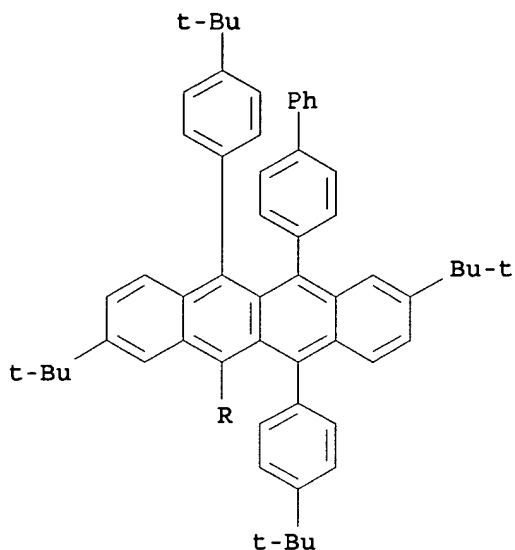
AB A process for synthesizing a naphthacene compound comprises the steps of: (a) reacting a 1,1,3-triphenylpropargyl alc. compound with a reagent capable of forming a leaving group to form a reaction mixture containing an intermediate; and then (b) heating the intermediate in the presence of a solvent and in the absence of any oxidizing agent and in the absence of any base, for cyclization to form the naphthacene compound. Thus, 10.0 g 1,1,3-Triphenylpropargyl alc. was dissolved in 70 mL toluene, with slight heating to get complete dissoln., cooled and stirred at 0° under a nitrogen atmospheric, treated with 4.95 g NEt<sub>3</sub> and then treated dropwise with 6.29 g CH<sub>3</sub>SO<sub>2</sub>Cl, keeping the temperature of the reaction below 10°. The resulting solution was stirred at 0° for 15 min, at room temperature for 15 min and then heated to 110° for 4 h to give, after workup and crystallization methanol, 5,6,11,12-tetraphenylnaphthacene having 99.5% purity vs. 90% purity when a hindered amine, collidine, was used.

IT 850797-15-8P, 2,8-Di(tert-butyl)-5,6,11,12-tetrakis(4-tert-butylphenyl)naphthacene  
 (process for preparing triphenylnaphthacene compds. by reaction of 1,1,3-triphenylpropargyl alcs. with methanesulfonyl chloride and cyclization of intermediates)

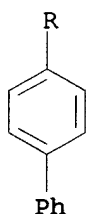
RN 850797-15-8 HCAPLUS

CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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INCL 585469000

CC 25-28 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 73

IT 517-51-1P, 5,6,11,12-Tetraphenylnaphthacene **850797-15-8P**, 2,8-Di(tert-butyl)-5,6,11,12-tetrakis(4-tert-butylphenyl)naphthacene

(process for preparing triphenylnaphthacene compds. by reaction of 1,1,3-triphenylpropargyl alcs. with methanesulfonyl chloride and cyclization of intermediates)

L10 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:101399 HCAPLUS

DOCUMENT NUMBER: 144:170799

TITLE: Process for preparing single regioisomer of naphthacene compounds

INVENTOR(S): Begley, William J.; Rajeswaran, Manju; Andrievsky, Natasha

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 15 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

USHA SHRESTHA EIC 1700 REM 4B28

LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006025618	A1	20060202	US 2004-899919	2004 0727

PRIORITY APPLN. INFO.:

US 2004-899919

2004  
0727

OTHER SOURCE(S): CASREACT 144:170799; MARPAT 144:170799

AB A process for synthesizing a single regioisomer of a naphthacene compound comprises the steps of: (a) reacting a sym. substituted 1,1-diarylpropargyl alc. compound with a reagent capable of forming a leaving group to form a reaction mixture containing an intermediate; and then (b) heating the intermediate in the presence of a solvent and in the absence of any oxidizing agent to form a single naphthacene compound. This process gives high purity naphthacenes which are useful in high performing electroluminescent (EL) devices. Thus, 32.76 g 4-biphenylacetylene was dissolved in 750 mL DMF, stirred with a mech. stirrer, cooled to -10° to 0°, treated with 25 g powdered potassium tert-butoxide over 10 min, stirred well for .apprx.15 min at -10° to 0°, treated with 50 g 4,4'-di-tert-butylbenzophenone all at once, stirred at -10° to 0° for .apprx.1 h, and then allowed to come to room temperature over 1 h to give, after workup, 72 g 1,1-bis(4-tert-butylphenyl)-3-(biphenyl-4-yl)-2-propynol (I). I (5.0 g) was dissolved in 70 mL toluene with slight heating to get complete dissoln., cooled and stirred at 0° under a nitrogen atmosphere, treated with 1.41 g NET<sub>3</sub>, and then treated dropwise with 1.79 g CH<sub>3</sub>SO<sub>2</sub>Cl, keeping the temperature of the reaction below 1°. The resulting solution was stirred at 0° for 15 min and then at room temperature for 15 min, treated with 2.11 g finely powdered anhydrous Na<sub>2</sub>CO<sub>3</sub> and then heated, with good stirring, to 110° for 4 h to give, after workup, 6.0 g 2,8-di(tert-butyl)-5,11-bis(4-tert-butylphenyl)-6,12-di(biphenyl-4-yl)naphthacene.

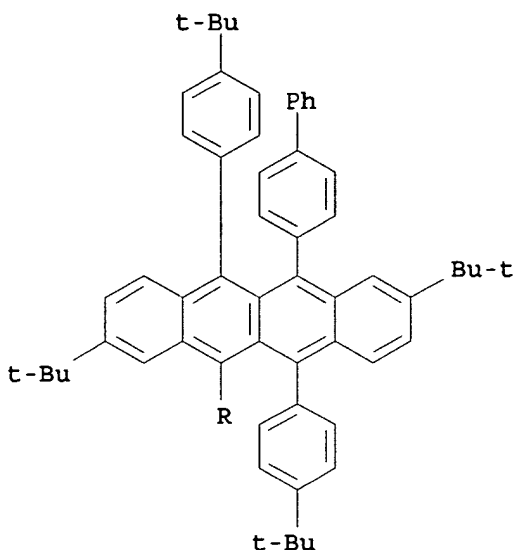
IT 850797-15-8P, 2,8-Di(tert-butyl)-5,11-bis(4-tert-butylphenyl)-6,12-di(biphenyl-4-yl)naphthacene  
 (process for preparing single regioisomer of naphthacene compds. by reaction of diarylpropargyl alcs. with methanesulfonyl chloride and cyclization of intermediates)

RN 850797-15-8 HCAPLUS

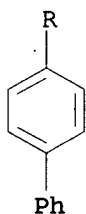
CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



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INCL 552292000

CC 25-28 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section-cross-reference(s): 73

IT 850797-14-7P, 2,8-Di(tert-butyl)-5,6,11,12-tetrakis(4-tert-butylphenyl)naphthacene 850797-15-8P,  
2,8-Di(tert-butyl)-5,11-bis(4-tert-butylphenyl)-6,12-di(biphenyl-4-yl)naphthacene

(process for preparing single regioisomer of naphthacene compds.  
by reaction of diarylpropargyl alcs. with methanesulfonyl  
chloride and cyclization of intermediates)

L10 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:101398 HCAPLUS

DOCUMENT NUMBER: 144:170798

TITLE: Process for preparing single regioisomer of  
naphthacene compound

INVENTOR(S): Begley, William J.; Rajeswaran, Manju;  
Andrievsky, Natasha

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 15 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006025617	A1	20060202	US 2004-899825	2004 0727
WO 2006019859	A1	20060223	WO 2005-US24919	2005 0713

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-899825 A  
 2004  
 0727

OTHER SOURCE(S): CASREACT 144:170798; MARPAT 144:170798

AB A process for synthesizing a single isomer of a naphthacene compound comprises the steps of: (a) reacting a sym. substituted 1,1-diarylpropargyl alc. compound with a reagent capable of forming a leaving group to form a reaction mixture containing an intermediate; and then (b) heating the intermediate in the presence of a solvent and in the absence of any oxidizing agent to form a single naphthacene compound. This process gives high-purity naphthacenes which are useful in high performing electroluminescence devices (no data). Thus, a solution of 39.6 g 4-tert-butylphenylacetylene in 400 mL DMF was cooled to -10° to 0°, treated with powdered 34 g potassium tert-butoxide over 10 min under stirring, stirred well for approx. 15 min at -10° to 0°, treated 70.1 g 4,4'-di-tert-butylbenzophenone all at once, stirred at -10° to 0° for approx. 1 h, and then allowed to come to room temperature over 1 h to give, after workup, 82 g 1,1,3-tris(4-tert-butylphenyl)-2-propynol (I). Propargyl alc. I (40 g) was dissolved in 300 mL toluene, with slight heating to get complete dissoln., cooled and stirred at 0° under a nitrogen atmosphere, treated with 12.52 g NEt<sub>3</sub>, and then treated dropwise with 15.8 g CH<sub>3</sub>SO<sub>2</sub>Cl, keeping the temperature of the reaction below 10°. The resulting solution was stirred at 0° for 15 min and then at room temperature for 15 min, treated with 24.3 g finely powdered anhydrous K<sub>2</sub>CO<sub>3</sub> and then heated, with good stirring, to 110° for 4 h to give, after workup, 14 g 2,8-di(tert-butyl)-5,6,11,12-tetrakis(4-tert-butylphenyl)naphthacene.

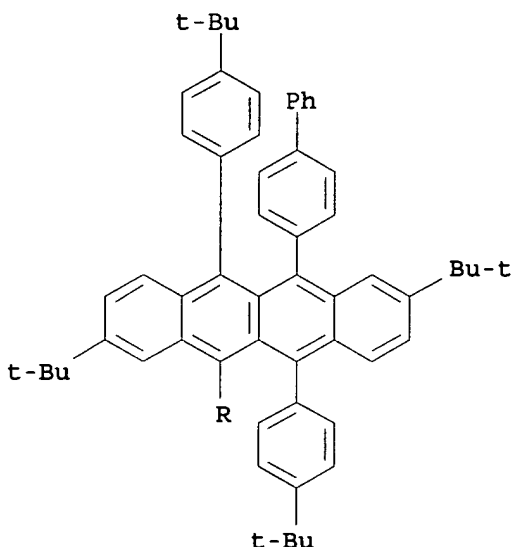
IT 850797-15-8P, 6,12-Bis(4-biphenyl)-2,8-di(tert-butyl)-5,11-bis(4-tert-butylphenyl)naphthacene  
 (process for preparing single regioisomer of naphthacene compds.)

by reaction of sym. substituted 1,1-diarylpropargyl alcs. with  
methanesulfonyl chloride and cyclization of intermediates)

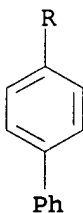
RN 850797-15-8 HCAPLUS

CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA  
INDEX NAME)

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INCL 552292000

CC 25-28 (Benzene, Its Derivatives, and Condensed Benzenoid  
Compounds)

Section cross-reference(s): 73

IT 850797-14-7P, 2,8-Di(tert-butyl)-5,6,11,12-tetrakis(4-tert-  
butylphenyl)naphthacene 850797-15-8P,  
6,12-Bis(4-biphenyl)-2,8-di(tert-butyl)-5,11-bis(4-tert-  
butylphenyl)naphthacene

(process for preparing single regioisomer of naphthacene compds.  
by reaction of sym. substituted 1,1-diarylpropargyl alcs. with  
methanesulfonyl chloride and cyclization of intermediates)

L10 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:74876 HCAPLUS

DOCUMENT NUMBER: 144:159899

TITLE: White electroluminescent devices with anthracene derivative host  
 INVENTOR(S): Conley, Scott R.; Hatwar, Tukaram K.  
 PATENT ASSIGNEE(S): Eastman Kodak Co., USA  
 SOURCE: U.S. Pat. Appl. Publ., 36 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
US 2006019116	A1	20060126	US 2004-897357	2004 0722

PRIORITY APPLN. INFO.: US 2004-897357  
 2004  
 0722

AB OLED devices for emitting white light are described which comprise adjacent layers 1 and 2 where layer 1 contains a host and a yellow, orange, or red emitter and layer 2 contains a host and a blue or blue-green light emitter where the host in layer 2 comprises an anthracene material bearing an aromatic ring bonded to the 2-, 9-, and 10-positions of the anthracene nucleus.

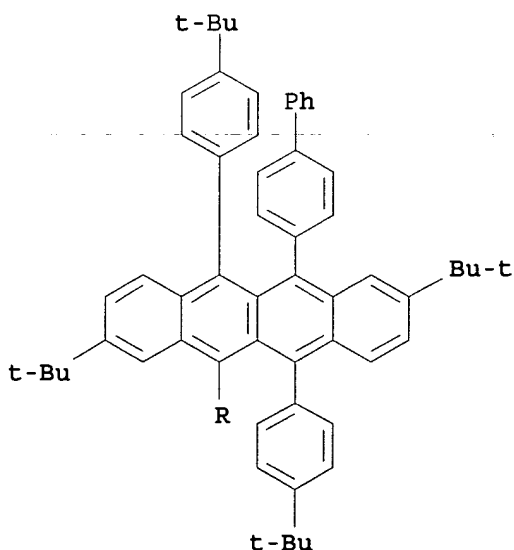
IT 850797-15-8

(white electroluminescent device with anthracene derivative host)

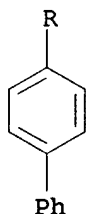
RN 850797-15-8 HCAPLUS

CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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INCL 428690000; 428917000; 428212000; 313504000; 313506000; 313112000;  
257098000; 257089000; 257-E51.022

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 22, 74, 76

IT 80663-92-9D, derivs. 144810-08-2D, derivs. 175606-05-0D,  
derivs. 850797-14-7 850797-15-8 873810-58-3

(white electroluminescent device with anthracene derivative host)

L10 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:9504 HCAPLUS

DOCUMENT NUMBER: 144:97409

TITLE: High performance white light-emitting OLED

INVENTOR(S): Hatwar, Tukaram K.; Spindler, Jeffrey P.;  
Young, Ralph H.

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 28 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2006003184	A1	20060105	US 2004-882834	2004 0701
WO 2006028546	A1	20060316	WO 2005-US21448	2005 0616

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CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, VZ, VC, VN, YU, ZA, ZM, ZW  
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HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK,  
TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ,  
TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-882834 A

2004  
0701

AB A broadband-emitting organic electroluminescent device (OLED) having an anode and a cathode spaced from the anode includes a 1st light-emitting layer provided over the anode and containing a 1st host material and a 1st light-emitting material, wherein the 1st host material is a mixture of  $\geq 1$  mono-anthracene derivs. and  $\geq 1$  aromatic amine derivs., wherein the mono-anthracene derivative(s) being provided in a volume fraction range of 5% to 50% relative to the total host volume, and the aromatic amine derivative(s) being provided in a volume fraction range of 50% to 95% relative to the total host volume, and a 2nd light-emitting layer provided over or under the 1st light-emitting layer.

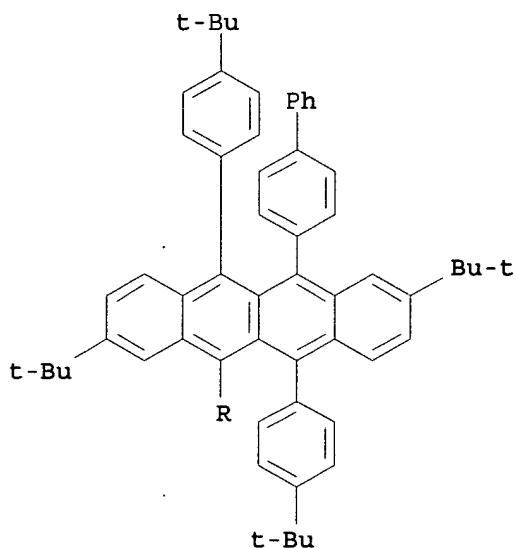
IT 850797-15-8

(dopant in yellow-emitting layer; high performance white light-emitting OLED)

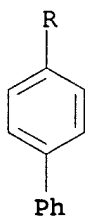
RN 850797-15-8 HCAPLUS

CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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INCL 428690000; 428917000; 428212000; 313504000; 313506000; 257102000; 257103000; 257-E51.024

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related

Properties)

Section cross-reference(s): 74

IT 850797-15-8

(dopant in yellow-emitting layer; high performance white light-emitting OLED)

L10 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1026523 HCAPLUS

DOCUMENT NUMBER: 143:335928

TITLE: White organic light-emitting devices with improved performance with hole-transporting layers containing light-emitting naphthacene derivatives

INVENTOR(S): Begley, William J.; Hatwar, Tukaram K.; Rajeswaran, Manju; Andrievsky, Natasha

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 49 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005208327	A1	20050922	US 2004-801997	2004 0316
WO 2005093008	A1	20051006	WO 2005-US6823	2005 0302

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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-801997 A 2004 0316

OTHER SOURCE(S): MARPAT 143:335928

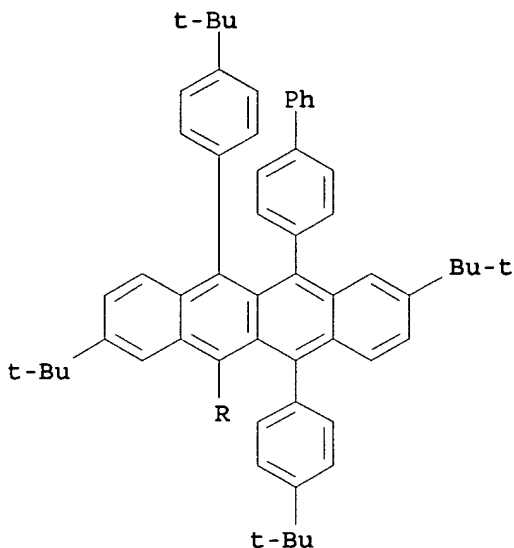
AB Organic light-emitting diodes producing white light comprising an anode, a hole-transporting layer disposed over the anode, a blue light-emitting layer disposed over the hole-transporting layer, an electron-transporting layer disposed over the blue light-emitting layer, and a cathode disposed over the electron-transporting layer are described in which the hole-transporting layer comprises an entire layer or a partial portion of a layer in contact with the blue light-emitting layer and contains a selected light-emitting naphthacene derivative (especially a rubrene derivative).

IT 850797-15-8

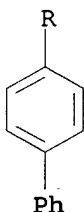
(white organic light-emitting devices with hole-transporting

layers containing light-emitting naphthacene derivs.)  
 RN 850797-15-8 HCAPLUS  
 CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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IC ICM H05B033-14  
 INCL 428690000; 428917000; 428332000; 313504000; 313506000; 313112000; 257098000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 25, 76  
 IT 118769-17-8 682806-51-5 850755-32-7 850755-33-8  
 850755-34-9 850755-36-1 850755-40-7 850755-41-8  
 850755-42-9 850755-44-1 850755-45-2 850755-46-3  
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 850797-24-9 850797-25-0 850833-50-0 850833-51-1  
 865093-41-0



(white organic light-emitting devices with hole-transporting layers containing light-emitting naphthacene derivs.)

L10 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:394610 HCAPLUS  
 DOCUMENT NUMBER: 142:438398  
 TITLE: Organic element for electroluminescent devices using rubrene derivative  
 INVENTOR(S): Begley, William J.; Hatwar, Tukaram K.; Rajeswaran, Manju; Giesen, David J.; Andrievsky, Natasha  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 25 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005095451	A1	20050505	US 2003-700916	2003 1104
US 7052785	B2	20060530		
WO 2005048370	A1	20050526	WO 2004-US34776	2004 1021
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OTHER SOURCE(S): MARPAT 142:438398  
 AB Disclosed is an OLED device comprising a light-emitting layer (LEL) containing a host and a dopant located between a cathode and an anode wherein the emitter is an orange-red light emitting rubrene derivative (II): wherein: (a) there are identical branched alkyl or nonarom. carbocyclic groups at the 2- and 8-positions; (b) the Ph rings in the 5- and 11-positions contain only para-substituents

identical to the branched alkyl or nonarom. carbocyclic groups in paragraph (a); and (c) the Ph rings in the 6- and 12-positions are substituted.

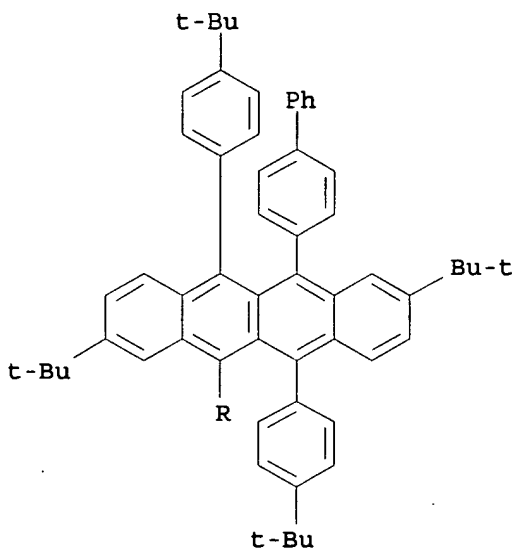
IT 850797-15-8

(organic element for electroluminescent devices using rubrene derivative)

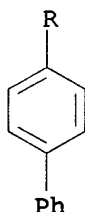
RN 850797-15-8 HCAPLUS

CN Naphthacene, 6,12-bis([1,1'-biphenyl]-4-yl)-2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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IC ICM H05B033-14

INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 850797-15-8 850797-16-9 850797-17-0 850797-18-1

850797-19-2 850797-20-5 850797-21-6 850797-22-7

850797-23-8 850797-24-9 850797-25-0

(organic element for electroluminescent devices using rubrene derivative)

REFERENCE COUNT:

11

THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE

## IN THE RE FORMAT

=&gt; d 111 1-10 ibib abs hitstr hitind

L11 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2006:469364 HCAPLUS  
 DOCUMENT NUMBER: 144:477445  
 TITLE: Selecting white point for OLED devices  
 INVENTOR(S): Spindler, Jeffrey P.; Hatwar, Tukaram K.;  
 Ricks, Michele L.  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 54 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2006105198	A1	20060518	US 2004-990865	2004 1117
WO 2006055415	A1	20060526	WO 2005-US40921	2005 1110

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
 ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
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 OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,  
 SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,  
 ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,  
 HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI,  
 SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
 NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL,  
 SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

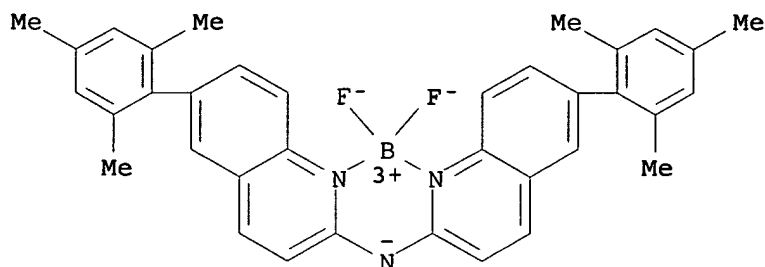
PRIORITY-APPLN. INFO.: US 2004-990865 A  
 2004  
 1117

AB The invention relates to a method for selecting 2 different  
 light-emitting materials for use in an OLED device, each of which  
 produces different color light, which combine to produce white  
 light. Each light emitting material has its own point on a  
 chromaticity diagram, and the light-emitting materials are  
 selected such that, when a line is drawn between the 1st point and  
 the 2nd point, it passes through a desired white area defined on a  
 chromaticity diagram.

IT 676120-56-2  
 (selecting white point for OLED devices)

RN 676120-56-2 HCAPLUS

CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-  
 trimethylphenyl)-2-quinolinyl-κN]-2-quinolinaminato-  
 κN1]-, (T-4)- (9CI) (CA INDEX NAME)



INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000;  
257-E51.049

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74

IT 517-51-1, Rubrene 55035-43-3 374592-94-6 478799-44-9  
478799-46-1 676120-56-2 850797-14-7 850797-15-8  
(selecting white point for OLED devices)

L11 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:30273 HCAPLUS

DOCUMENT NUMBER: 144:138538

TITLE: Hole-trapping materials for improved OLED efficiency

INVENTOR(S): Jarikov, Viktor V.

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 37 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

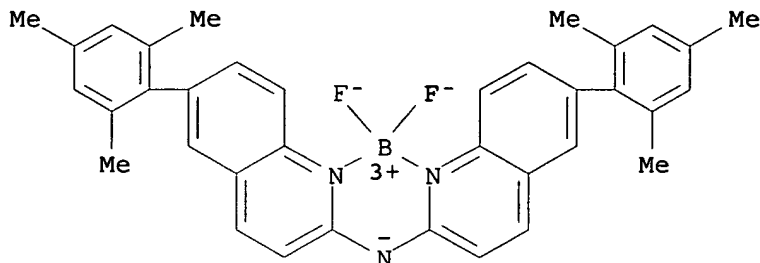
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2006008672	A1	20060112	US 2004-889654	2004 0712
PRIORITY APPLN. INFO.:				2004 0712
				2004 0712

AB Organic light-emitting devices comprising a light-emitting layer including a host, a dopant, and a hole-trapping material are described in which the hole-trapping material is provided at 0.01 to less than 5 volume % relative to the light-emitting layer volume and has an oxidation potential that is selected so that it is less than the oxidation potential of the host in order to serve as a hole trap, so as to avoid formation of a certain charge transfer complex between the hole-trapping material and the host if the charge transfer complex causes a reduction in the electroluminescent efficiency of the dopant, and so as to avoid formation of the charge transfer complex between the hole-trapping material and the dopant.

IT 676120-56-2  
(organic light-emitting devices employing hole-trapping materials)

RN 676120-56-2 HCAPLUS  
 CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-trimethylphenyl)-2-quinolinyl-κN]-2-quinolinaminato-κN1]-, (T-4)- (9CI) (CA INDEX NAME)



INCL 428690000; 428917000; 428212000; 313504000; 257102000; 257103000;  
 313506000; 257-E51.022; 257-E51.026  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 Section cross-reference(s): 76  
 IT 190-26-1, Ovalene 197-74-0, Dibenzo[b,k]perylene 198-55-0,  
 Perylene 5869-30-7, Dibenzo[b,ghi]perylene 55035-42-2,  
 4-(Diphenylamino)-4'-[4-(diphenylamino)styryl]stilbene  
 55035-43-3, 4-(Di-p-Tolylamino)-4'-[(di-p-  
 tolylamino)styryl]stilbene 62555-95-7 62556-02-9 65181-78-4,  
 N,N'-Bis(3-methylphenyl)-N,N'-diphenylbenzidine 80663-92-9,  
 2,5,8,11-Tetra-tert-butylperylene 96323-47-6 119564-27-1  
 123847-85-8 124729-98-2, MTDATA 369612-04-4,  
 2,8-Di-tert-Butylperylene 374592-88-8 503624-47-3  
 593245-96-6 676120-56-2 873430-38-7  
 (organic light-emitting devices employing hole-trapping materials)

L11 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:1333963 HCAPLUS  
 DOCUMENT NUMBER: 144:78065  
 TITLE: Array of light-emitting OLED microcavity  
 pixels  
 INVENTOR(S): Ricks, Michele L.; Hatwar, Tukaram K.;  
 Spindler, Jeffrey P.; Winters, Dustin L.;  
 Shore, Joel D.  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 36 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2005280008	A1	20051222	US 2004-869115	2004 0616
US 7023013	B2	20060404		
WO 2006009612	A1	20060126	WO 2005-US19807	2005

0603

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 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
 ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
 KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
 MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG,  
 PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,  
 TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,  
 HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK,  
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ,  
 TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:

US 2004-869115

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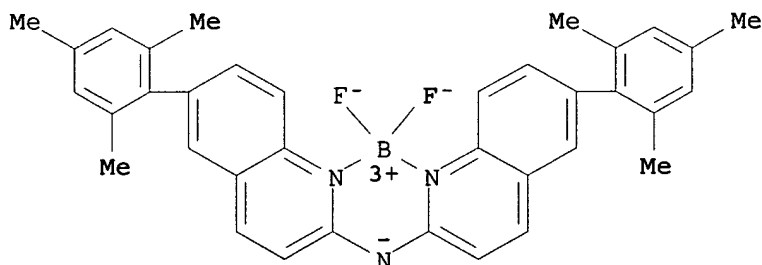
AB A color OLED display has at least three different colored microcavity pixels, each including a light reflective structure and a semi-transparent structure includes an array of light-emitting microcavity pixels each having one or more common organic light-emitting layers, said light-emitting layer(s) including first and second light-emitting materials, resp., that produce different light spectra, the first light-emitting material producing light having a first spectrum portion that extends between first and second different colors of the array, and the second light-emitting material producing light having a second spectrum portion that is substantially contained within a third color that is different from the first and second colors, and each different colored pixel being tuned to produce light in one of the three different colors whereby the first, second, and third different colors are produced by the OLED display.

IT 676120-56-2

(light emitting compound; array of light-emitting OLED microcavity pixels containing)

RN 676120-56-2 HCAPLUS

CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-trimethylphenyl)-2-quinolinyl-κN]-2-quinolinamino-κN1]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM H01L027-15

INCL 257079000

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 175606-05-0 676120-56-2

(light emitting compound; array of light-emitting OLED microcavity pixels containing)

L11 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:1200232 HCAPLUS  
 DOCUMENT NUMBER: 143:449546  
 TITLE: Tuned microcavity color OLED display  
 INVENTOR(S): Hatwar, Tukaram K.; Spindler, Jeffrey P.;  
 Ricks, Michele L.; Winters, Dustin L.; Shore,  
 Joel D.  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 33 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005249972	A1	20051110	US 2004-838665	2004 0504
WO 2005116969	A2	20051208	WO 2005-US13959	2005 0425
WO 2005116969	A3	20060330		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			US 2004-838665	A 2004 0504

AB A color OLED display is described having at least 3 different colored microcavity pixels including a light-reflective structure and a semitransparent structure comprising an array of light-emitting microcavity pixels each having one or more common organic light-emitting layers, the light-emitting layer(s) having 1st, 2nd, and 3rd light-emitting materials that produce different light spectra. The 1st light-emitting material producing light has a 1st spectrum portion that is substantially contained within a 1st color of the array, the 2nd light-emitting material producing light has a 2nd spectrum portion that is substantially contained within a 2nd color that is different from the 1st color, and the 3rd light-emitting material producing light has a 3rd spectrum portion that is substantially contained within a 3rd color that is different from the 1st and 2nd colors.

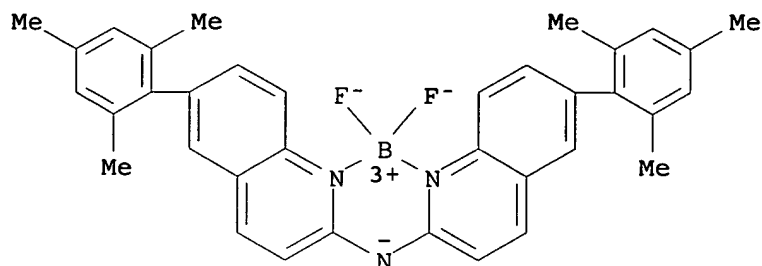
IT 676120-56-2

(tuned microcavity color OLED display)

RN 676120-56-2 HCAPLUS

CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-

trimethylphenyl)-2-quinolinyl-κN]-2-quinolinaminato-  
κN1]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM H05B033-12  
INCL 428690000; 428917000; 313504000; 313506000; 313112000; 313113000;  
257089000; 257098000  
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
IT 122648-99-1 155306-71-1 172285-79-9 175606-05-0  
221455-80-7 274905-73-6 331749-28-1 331749-29-2  
331749-30-5 331749-31-6 676120-56-2 862501-00-6  
868839-39-8 868839-40-1 868839-41-2 868839-42-3  
(tuned microcavity color OLED display)

L11 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1026523 HCAPLUS

DOCUMENT NUMBER: 143:335928

TITLE: White organic light-emitting devices with  
improved performance with hole-transporting  
layers containing light-emitting naphthacene  
derivatives

INVENTOR(S): Begley, William J.; Hatwar, Tukaram K.;  
Rajeswaran, Manju; Andrievsky, Natasha

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 49 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005208327	A1	20050922	US 2004-801997	2004 0316
WO 2005093008	A1	20051006	WO 2005-US6823	2005 0302

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,  
PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW



RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
 ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,  
 CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT,  
 LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF,  
 CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2004-801997

A

2004

0316

OTHER SOURCE(S): MARPAT 143:335928

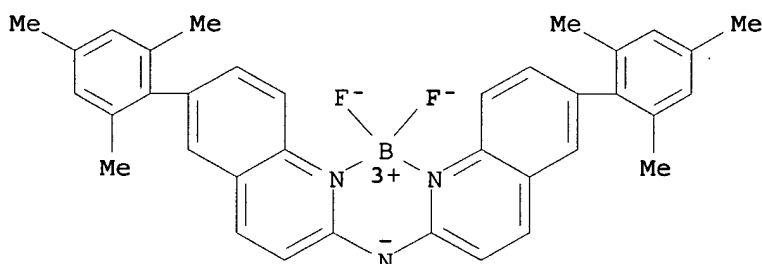
AB Organic light-emitting diodes producing white light comprising an anode, a hole-transporting layer disposed over the anode, a blue light-emitting layer disposed over the hole-transporting layer, an electron-transporting layer disposed over the blue light-emitting layer, and a cathode disposed over the electron-transporting layer are described in which the hole-transporting layer comprises an entire layer or a partial portion of a layer in contact with the blue light-emitting layer and contains a selected light-emitting naphthacene derivative (especially a rubrene derivative).

IT 676120-56-2

(white organic light-emitting devices with hole-transporting layers containing light-emitting naphthacene derivs.)

RN 676120-56-2 HCAPLUS

CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-trimethylphenyl)-2-quinolinyl-κN]-2-quinolinaminato-κN1]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

INCL 428690000; 428917000; 428332000; 313504000; 313506000; 313112000;  
 257098000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25, 76

IT 147-14-8, Copper phthalocyanine 1428-67-7D, DPN, derivs.

7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses

11099-20-0 12798-95-7 23786-72-3 37271-44-6 42029-62-9

51311-17-2, Carbon fluoride 55035-43-3 55035-43-3D, derivs.

80663-92-9, 2,5,8,11-Tetra-tert-butyl perylene 122648-99-1

122648-99-1D, derivs. 123847-85-8, NPB 124729-98-2, m-MTDATA

155306-71-1, C545T 221455-80-7 256425-63-5, C545TB

274905-73-6 274905-73-6D, derivs. 574749-25-0 676120-51-7

676120-52-8 676120-53-9 676120-54-0 676120-55-1

676120-56-2 676120-57-3 676120-58-4 676120-59-5

676120-60-8 862501-00-6 862501-00-6D, derivs.

(white organic light-emitting devices with hole-transporting layers containing light-emitting naphthacene derivs.)

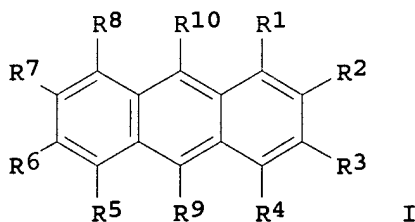
L11 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:823196 HCAPLUS  
 DOCUMENT NUMBER: 143:219254  
 TITLE: Anthracene derivative host having ranges of dopants  
 INVENTOR(S): Ricks, Michele L.; Hatwar, Tukaram K.; Spindler, Jeffrey P.; Cosimbescu, Lelia  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 33 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005181232	A1	20050818	US 2004-780436	2004 0217
WO 2005080527	A1	20050901	WO 2005-US3879	2005 0204

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-780436 A  
 2004  
 0217

OTHER SOURCE(S): MARPAT 143:219254  
 GI



AB White light-emitting organic light-emitting devices including spaced apart anodes and cathodes, and having blue light-emitting and yellow, orange, or red light-emitting layers are described in which the blue light-emitting layer includes a host material comprising a monoanthracene derivative are described by the general

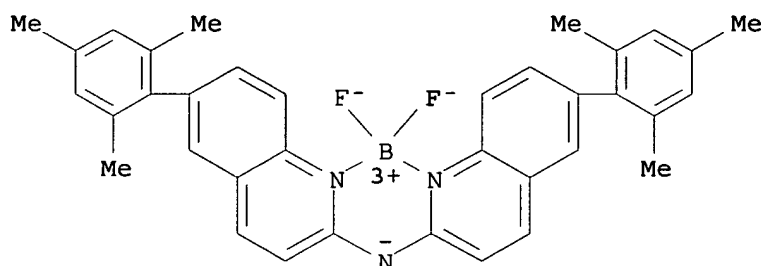
formula I (R1-8 = H; R9 is not the same as R10; R9 = a naphthyl group having no fused rings with aliphatic carbon ring members; and R10 = a biphenyl group having no fused rings with aliphatic carbon ring members; and R9 and R10 are free of amines and sulfur compds.). The devices may be provided with color filters. Displays and area lighting systems incorporating the devices are also described.

IT 676120-56-2

(white light-emitting organic light-emitting devices employing anthracene derivative hosts)

RN 676120-56-2 HCAPLUS

CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-trimethylphenyl)-2-quinolinyl-κN]-2-quinolinamino-κN1]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74, 76

IT 517-51-1, Rubrene 55035-43-3, 4-(Di-p-tolylamino)-4'-[(di-p-tolylamino)styryl]stilbene 80663-92-9 123847-85-8, NPB 676120-56-2

(white light-emitting organic light-emitting devices employing anthracene derivative hosts)

L11 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:588313 HCAPLUS

DOCUMENT NUMBER: 143:122834

TITLE: White OLED devices with color filter arrays

INVENTOR(S): Hatwar, Tukaram K.; Spindler, Jeffrey P.; Brown, Christopher T.; Ricks, Michele L.

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 31 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2005147844	A1	20050707	US 2004-751352	2004 0105
WO 2005069397	A2	20050728	WO 2004-US43533	

2004  
1222

WO 2005069397

A3

20060112

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,  
PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,  
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM  
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,  
CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT,  
LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF,  
CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2004-751352

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2004  
0105

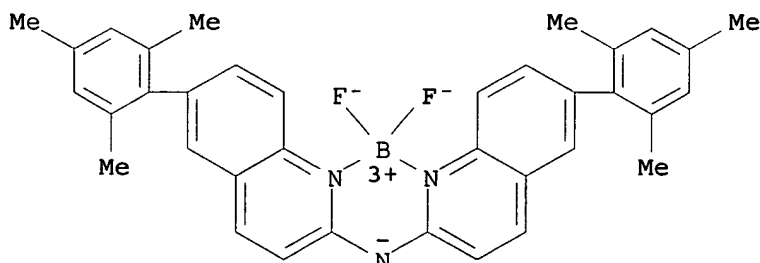
AB White organic light-emitting devices including a color filter array including  $\geq 3$  sep. filters having bandpass spectra for passing red, green, and blue light, resp. in response to white light to produce preselected color outputs disposed over an electroluminescent element with a light-emitting structure including  $\geq 2$  dopants for collectively emitting white light are described in which the composition of  $\geq 1$  of the dopants is selected to change the spectrum of the white light to be compatible with the spectrum of the color filters by having peak responses in the white light spectrum corresponding to the bandpass spectra of the red and blue color filters whereby the white light more effectively matches the responses of the color filters.

IT 676120-56-2

(white organic light-emitting devices with dopants matched to color filter arrays)

RN 676120-56-2 HCAPLUS

CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-trimethylphenyl)-2-quinolinyl- $\kappa$ N]-2-quinolinamino- $\kappa$ N1]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

IT 188-94-3, Diindeno[1,2,3-cd:1',2',3'-lm]perylene 517-51-1,  
Rubrene 55035-43-3 222849-28-7 222849-41-4 676120-51-7

676120-52-8 676120-53-9 676120-54-0 676120-55-1  
 676120-56-2 676120-57-3 857264-90-5D, derivs.

(white organic light-emitting devices with dopants matched to color filter arrays)

L11 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:485595 HCAPLUS  
 DOCUMENT NUMBER: 143:26722  
 TITLE: Synthesis of bis(azinyl)amine-BF<sub>2</sub> complex  
 INVENTOR(S): Owczarczyk, Zbyslaw R.  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S., 7 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

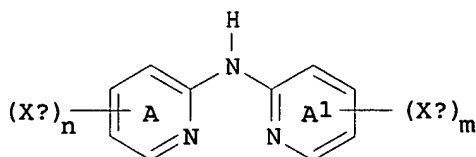
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6903214	B1	20050607	US 2003-733086	2003 1211
US 2005131234	A1	20050616		
WO 2005061521	A1	20050707	WO 2004-US39869	2004 1129

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

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PRIORITY APPLN. INFO.: US 2003-733086 A  
 2003  
 1211

OTHER SOURCE(S): CASREACT 143:26722; MARPAT 143:26722  
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AB Disclosed is a process of preparation of title complex I (A, A1 =

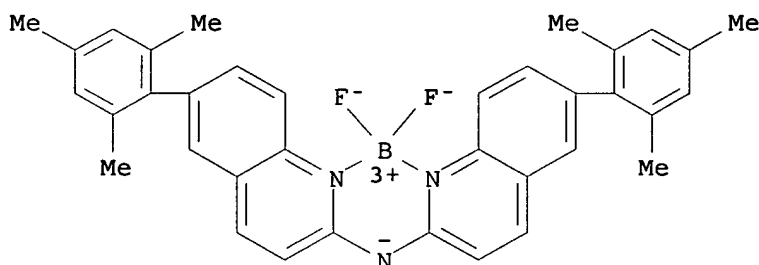
independent azine ring systems corresponding to 6-membered aromatic ring systems containing at least one N; Xa, Xb = independently selected substituent, two of which may join to form a fused ring to A or Al; m, n = 0-4), comprising the step of reacting BF<sub>3</sub> with a protonated bis(azinyl)amine in the presence of a polar aprotic organic solvent that is not reactive with the BF<sub>3</sub> under reaction conditions. Such process provides good yields, even when a bulky group is present on the bis(azinyl)amine compound

IT 676120-56-2P

(synthesis of bis(azinyl)amine boron difluoride complex via boration with boron trifluoride etherate)

RN 676120-56-2 HCAPLUS

CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-trimethylphenyl)-2-quinolinyl-κN]-2-quinolinaminato-κN1]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM C07F005-02

INCL 546013000

CC 29-4 (Organometallic and Organometalloidal Compounds)

IT 676120-56-2P 852660-08-3P 852660-09-4P 852660-10-7P

852660-11-8P 852660-12-9P 852660-14-1P 852660-15-2P

852660-16-3P 852660-17-4P 852660-18-5P 852660-19-6P

852660-20-9P

(synthesis of bis(azinyl)amine boron difluoride complex via boration with boron trifluoride etherate)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:395413 HCAPLUS

DOCUMENT NUMBER: 142:438402

TITLE: Aggregate organic light emitting diode devices

INVENTOR(S): Jarikov, Viktor Viktorovich; Vargas, J. Ramon

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: PCT Int. Appl., 161 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005040303	A1	20050506	WO 2004-US33605	2004

1012

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
 ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
 KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
 MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,  
 PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,  
 TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
 ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,  
 CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,  
 MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI,  
 CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2005106415      A1      20050519      US 2003-691326

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PRIORITY APPLN. INFO.:

US 2003-691326

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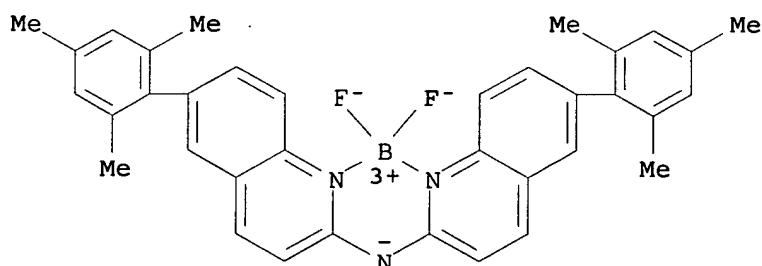
AB An organic light emitting device includes a substrate, an anode and a cathode disposed over the substrate, and a luminescent layer disposed between the anode and the cathode wherein the luminescent layer includes a host and at least one dopant. The host of the luminescent layer is selected to include a solid organic material comprising a mixture of at least two components, one of which contains at least one monoaza-perylene or poly-aza-perylene ring structure and is capable of forming both monomer state and an aggregate state.

IT 676120-56-2

(aggregate organic light emitting diode devices with perlene derivative)

RN 676120-56-2 HCAPLUS

CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-trimethylphenyl)-2-quinolinyl-κN]-2-quinolinaminato-κN1]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

ICS H01L051-30; C07C013-00; C07C015-00

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 126-73-8, TBP, uses 188-96-5, Peropyrene 191-07-1, Coronene 191-24-2, Benzo[ghi]perylene 198-55-0, Perylene 517-51-1, Rubrene 2085-33-8, Aluminum tris(8-hydroxyquinolino) 5869-30-7, Dibenzob[ghi]perylene 55035-43-3, 4-(Di-p-tolylamino)-4'-[(di-p-tolylamino)styryl]stilbene 80663-92-9, 2,5,8,11-Tetra-tert-butylperylene 101686-49-1,

Indeno[1,2,3-cd]perylene 274905-73-6 478799-44-9  
676120-56-2

(aggregate organic light emitting diode devices with perlene derivative)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L11 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:252040 HCAPLUS

DOCUMENT NUMBER: 140:311689

TITLE: White organic light-emitting devices with improved performance

INVENTOR(S): Hatwar, Tukaram K.

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 34 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

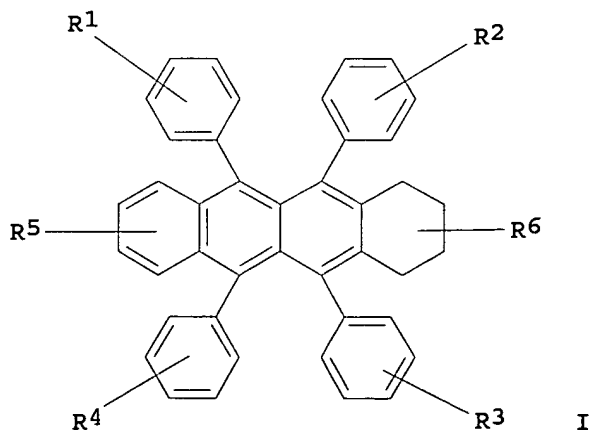
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 2004058193	A1	20040325	US 2002-244314	2002 0916
JP 2004134396	A2	20040430	JP 2003-323021	2003 0916
CN 1496208	A	20040512	CN 2003-158687	2003 0916
PRIORITY APPLN. INFO.:			US 2002-244314	A 2002 0916

OTHER SOURCE(S): MARPAT 140:311689  
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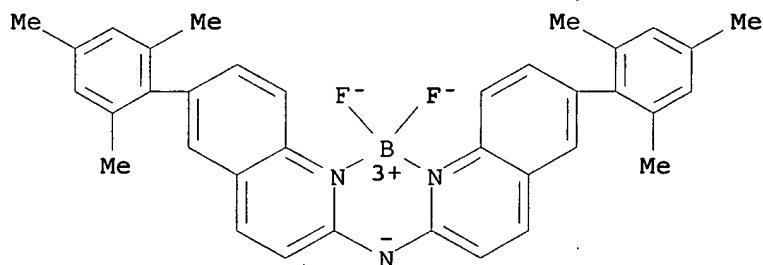
AB An white-light organic light-emitting diode (OLED) device is described comprising, in order, an anode; a hole-transporting layer; a doped blue light-emitting layer; an electron-transporting layer a cathode; and the hole-transporting layer and/or electron-transporting layer, selectively doped with the compound of general formula I which emits light in the yellow region of the spectrum which corresponds to an entire layer or a partial portion of a layer in contact with the blue light-emitting layer; wherein R1-R6 represent one or more substituents on each ring where each substituent is individually selected from (1)H, or alkyl C1-C24; (2) (substituted)aryl of C5-C20; (3)C4-C24 necessary to complete a fused aromatic ring of naphthyl, anthracenyl, phenanthryl, pyrenyl, or perylenyl; (4)heteroaryl or substituted heteroaryl of C5-C24 such as thiazolyl, furyl, thienyl, pyridyl, quinolinyl or other heterocyclic systems, which may be bonded via a single bond, or may complete a fused heteroarom. ring system; (5)alkoxylamino, alkylamino, or arylamino of C1-C24; or (6) fluorine, chlorine, bromine or cyano, except R5 and R6 do not form a fused ring, and at least one of the substituents R1, R2, R3, and R4 are substituted with a group other than H.

IT 676120-56-2

(blue emitting dopant; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)

RN 676120-56-2 HCAPLUS

CN Boron, difluoro[6-(2,4,6-trimethylphenyl)-N-[6-(2,4,6-trimethylphenyl)-2-quinolinyl-κN]-2-quinolinaminato-κN1]-, (T-4)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

INCL 428690000; 428917000; 428332000; 313504000; 313506000; 313112000; 257098000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

IT 55035-43-3 676120-51-7 676120-52-8 676120-53-9 676120-54-0  
676120-55-1 676120-56-2 676120-57-3

(blue emitting dopant; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)